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April 2, 2014

Re: Cornell Dubilier Electronics Superfund Site
National Remedy Review Board Stakeholder Comments
Operable Unit 4 - Bound Brook Study
South Plainfield, New Jersey

Dear National Remedy Review Board,

On behalf of the following organizations, Edison Wetlands Association (EWA), owner and operator of the 40-acre Triple C Ranch and Nature Center; New Jersey Sierra Club; New Jersey Conservation Foundation; Raritan Riverkeeper; please accept the following stakeholder comments for USEPA National Remedy Review Board review of the Cornell Dubilier Electronics (CDE) Superfund Site, Operable Unit 4 (OU4), Bound Brook Study.

Please note that we received the OU4 Stakeholder summary only two weeks before the original comment period deadline, and to date have not received the full Operable Unit 4 Bound Brook Remedial Investigation and Feasibility Study (RI/FS). We reserve the right to submit supplemental comments in addition to the comments below to the USEPA and the NRRB once the USEPA releases the complete RI/FS for the Cornell-Dubilier Superfund Site, OU4 Bound Brook Study.

EXECUTIVE SUMMARY

The comments below reflect our review of the limited USEPA technical documents and summary of the RI/FS of OU4 at the Cornell-Dubilier Electronics (CDE) Superfund Site, South Plainfield, New Jersey. This also includes our collective knowledge of the Bound Brook, the site and the various operable units from our long-term involvement.

While we applaud USEPA for finally conducting the 10-mile Bound Brook Study, we are extremely concerned and disappointed that this study has taken over 20 years to complete and the delays have caused the Bound Brook, its biota and the public to be further contaminated.

The long delay by the USEPA in addressing the Cornell-Dubilier Superfund site's groundwater and Bound Brook contamination have caused the site to directly release poisons into the Bound Brook and other areas in the 825 Acre toxic groundwater plume zone. This failure of the USEPA to stop the flow of highly toxic chemicals from the groundwater is very dangerous and poses an unacceptable risk to a large geographic region of thousands of New Jersey families in Edison, South Plainfield, Piscataway, Bound Brook and others towns and poses a serious and direct threat to human health and the environment.

The threat is not just in the Bound Brook but the entire plume area and the USEPA needs to conduct a rapid assessment of potential drinking water impacts and toxic vapors now that the poisoned groundwater is discharging in an uncontrolled manner. USEPA must direct all its resources in an expeditious manner to immediately address unacceptable human health and environmental exposures to the thousands of families at risk from the release of highly toxic chemicals at the CDE site.

USEPA identified other potential impacts to the Bound Brook and its upgradient tributaries. These ongoing surface water and sediment contamination sources must be addressed and mitigated as part of this Bound Brook Study. The following areas were identified in the USEPA Study:

> *"Three former facilities were identified, located outside the OU4 Study Area but near Bound Brook or a tributary upstream of the former CDE facility, including: Tingley Rubber Corporation (a former manufacturer of rubber footwear), Gulton Industries, Inc./Hybrid Printhead (a former industrial site), and Chevron Chemical Company/Ortho Division (a former pesticide manufacturer) and adjacent industrial properties (Figure 1). Note that the OU4 Study Area upstream of RM7.4 includes only the Bound Brook corridor, since the floodplains are being managed as part of the Woodbrook site. The OU4 Study Area also includes two major tributaries: the unnamed tributary near New Brunswick Avenue at RM 4.7 (Figure 2) and the unnamed tributary near Elsie Avenue at RM5.5 (Figure 3)." (p.10) (See Attachment 3.* ***Source:*** *Cornell-Dubilier Electronics Site, Operable Unit 4 – Bound Brook, South Plainfield Borough, Middlesex County, New Jersey; Stakeholder Information Package, EPA Region 2, March 2014)*

As the CDE related contamination spans such a vast, widely used area, the USEPA must remove all PCBs and other contamination identified in the study area. USEPA must stop the discharge of site related contaminates that are actively discharging into the Bound Brook from the CDE and Woodbrook Road Superfund Site. USEPA must also mitigate and remediate any other sources of surface water or sediment contamination if this cleanup is to be considered effective. In addition to eliminating all surface water and sediment contamination sources that pose any risk to human health or the environment, USEPA must fully restore the environmental integrity of the entire Bound Brook so the public can once again enjoy this beautiful natural resource.

The Bound Brook is the only water body in the state of New Jersey that has a "do not consume any fish in any amount by any risk group" advisory. This is due to the PCBs that have been released at the CDE Superfund Site and failure of regulatory agencies to act responsibly and in a timely manner. This advisory and the ongoing releases are not acceptable and the USEPA must fully mitigate this ongoing human health and ecological disaster. Under the federal Clean Water Act and other federal and state statutes, the government has the responsibility to restore the waters of the United States and make them swimmable, fishable and drinkable. USEPA has accepted the responsibility of addressing the risk posed by two large Superfund Sites in the Bound Brook. USEPA must address all contamination sources in the Bound Brook and its tributaries and restore the Bound Brook ecological integrity.

We strongly recommend that USEPA remove all the toxic PCBs from the Bound Brook and New Market Pond so that there are no further threats to human health or the environment, as well as stop all sources of on-going contamination. USEPA has a unique opportunity to leave a legacy of a clean and restored Bound Brook, especially in the regionally important Dismal Swamp Conservation Area. Central New Jersey families are counting on the USEPA to clean the Bound Brook. It is the USEPA's responsibility and duty to leave a Bound Brook where it is safe to consume the fish and biota again and the waters safe to drink, swim or wade through.

SPECIFIC PROBLEMS AND RECOMMENDATIONS:

Potential Additional Capacitor Disposal Areas

USEPA must investigate if there are other potential capacitor disposal areas upgradient from the CDE Superfund site. USEPA and other regulatory agencies have confirmed the upstream Woodbrook Road Superfund site in the Dismal Swamp Conservation Area (DSCA) (NJDismalSwamp.org). PCB capacitors and capacitor pieces came from the Cornell Dubilier Electronics Superfund Site. USEPA must carefully investigate the three up stream landfills between the CDE Superfund site and the Woodbrook Road Superfund site. The USEPA must also investigate the South Plainfield Public Works garage property for capacitor disposal areas.

USEPA must conduct intrusive investigations into these landfills and public works garage property. High levels of PCBs, TCE and other chemicals at the CDE Superfund Site and Woodbrook Road Superfund Site, (a second CDE Capacitor Disposal Area), have negatively impacted drinking and surface water, sediments, flora, fauna, and the surrounding community for almost 100 years. These three landfills between the CDE and Woodbrook Road Superfund Site have never been checked and are currently heavily used as sports fields where children play daily. Residents have reported that this area was used for dumping of chemicals and those reports have been passed on to the municipality, state and USEPA.

South Plainfield has accidently used unremediated contaminated areas in the past at the Veterans Memorial Park summer camp where toxic black goo turned out to be a phenolic resin. EWA site inspections and testing of the area also revealed asbestos and PCB's that were later identified as emanating from the CDE site. South Plainfield later closed the park and hired a contractor to conduct a partial remediation in order to remove the contaminants. (See Attachment 1)

Now that USEPA has found upgradient sources of PCBs in the surface water and sediments in the Bound Brook above the CDE site they must investigate the sources of the PCBs. USEPA must use test pits and take samples from those unremediated landfills for CDE related wastes since they are actively used as sports fields. The USEPA has a responsibility to the community since children frequently play on these landfills and their parents are unaware they are not sports fields but unremediated landfills.

USEPA allowed the rear of the capacitor disposal area at the CDE site to be used as a recreational trail for children for years before they closed the site off to children bicycling and playing. USEPA must not allow the same potential exposure to continue without investigating these areas. These disposal areas were areas of opportunity for the CDE employees to dispose of capacitor and capacitor pieces.

It is common knowledge that during the time that Woodbrook Road Superfund site and other disposal areas operated there was no such thing as a strictly municipal waste landfill. Municipalities allowed whatever came through the gates and often things came in at night and weekends. Half of the Superfund sites in New Jersey were former landfills, so these areas must be checked in order to verify that they do not contain capacitors, capacitor pieces or other chemicals from the CDE Site like the Woodbrook Road Superfund Site does.

NJDEP "Do Not Eat" Fish Advisory

This investigation conducted by the USEPA, NJDEP and other state and federal health agencies over the last several years have attempted to quantify the on-going chemical impacts of the CDE Superfund site and the Woodbrook Road Superfund Site on the biota. This investigation has caused the Bound Brook to be considered to be one of the most toxic water bodies in the state of New Jersey. This is due to the alarmingly high levels of PCBs that have been found in the fish and other biota that migrate throughout the Bound Brook.

> As indicated by the USEPA NRRB Stakeholder packet:
> *The Bound Brook watershed is unique among fishable waterways in New Jersey in having a waterbody-specific advisory of "do not eat," inclusive of both the general population and high-risk populations, covering all species of fish and shellfish. The advisory is based upon fish tissue levels of PCBs, which, as of 2006, were are consistently the highest measured in the state.[3] This fishing advisory was put in place after EPA began its response at the site, in the late 1990s. The region has worked with New Jersey to maintain "do not eat" signage along the Brook since that time, in English and Spanish.*
> *Public awareness of the PCB contamination, in addition to the fish consumption advisory, has probably resulted in less recreational activity than would occur if there were no consumption advisories. However, fishing has been observed, as has consumption of the catch, despite the advisory.*

The primary access point for fishing is at New Market Pond. Estimates of consumption rates for OU4 were based on rates expected to occur if the brook and the biota were not contaminated and in the absence of consumption advisories. This approach is consistent with EPA policy (EPA, 1990a)." (p. 18) (See Attachment 3. Source: [3]Routine Monitoring of Toxics in New Jersey Fish, Third Year (2006) of Routine Monitoring Program, New Jersey Department of Environmental Protection Division of Science, Research and Technology.)

The fish species present in the Bound Brook are exposed to dangerous levels of PCBs in the contaminated sediments and surface water. USEPA and NJDEP have tested these fish from the Bound Brook that led the NJDEP to issue an advisory of "Do Not Eat" for all the fish species in the Bound Brook, including Spring Lake and New Market Pond. (See Attachment 4) This exposure of PCBs has led to the bioaccumulation in the fish tissues that are harmful for human consumption. Human exposure to PCBs disrupt liver and thymus functions, causes tumors, impairs the immune system, and causes improper development of palate, teeth, and reproductive organs. Exposure to PCBs and dioxins are also linked to growth abnormalities, cognitive and nervous system disorders, and reproductive failure.

USEPA must conduct a thorough biota study including the testing of fish, mammals and other animals such as bullfrogs, crayfish, turtles and other biota eaten from the Bound Brook for PCBs and other chemicals. USEPA, NJDEP and federal and state health agencies must inform those who eat biota from the Bound Brook and DSCA of the results of the testing of these animals that live, reproduce and migrate through the Bound Brook and its tributaries.

Environmental Justice & Education Campaign

An education campaign targeting low-income subsistence fisherman and hunters must be conducted with a focus on those whose first language is not English and newly relocated families. It should discuss the PCB-contaminated fish and the harmful effects of consuming contaminated biota. Additionally, USEPA must address the uncontrolled consumption of fish from these waters, and coordinate with the health agencies on an outreach plan to those who consume poison fish, game and other wildlife. This is a clear environmental justice issue, as these low-income families cannot afford to buy food and rely on the poisoned Bound Brook as their food source. USEPA has stated in their National Environmental Justice (EJ) Plan 2014 that EJ "will be considered in every decision" the USEPA makes. The Bound Brook remediation has severe environmental justice implications and the cleanup of this entire water body needs to be carefully considered in the decision-making process. The cleanup and restoration of this important ecological resource is extremely important and cannot be done piece meal.

Responsible Party Liability

All responsible parties must be held accountable, and their contamination discharging into the Bound Brook must be eliminated. USEPA states in the Stakeholder Information package that "specifically, the OU3 ROD required the further assessment of the potential for release of PCBs from the groundwater to surface water. The USEPA deferred the OU4 remedy decision on contaminated groundwater that had the potential to discharge to the stream." Middlesex County Water Company stopped the pumping of the groundwater, which resulted in the current release. Their actions must be considered for potential liability due to these actions resulting in an active discharge now occurring in the Bound Brook.

In addition to the Woodbrook Road Superfund Site and CDE Superfund Site in South Plainfield, New Jersey, USEPA has identified other upstream sources in the Bound Brook that must be addressed through enforcement action if necessary. These include the Chevron Chemical/Ortho USEPA RCRA site (Metuchen Road, South Plainfield), Tingley Rubber (South Plainfield), and Gulton Industries (Metuchen).

There is sufficient data that these sites contribute to ongoing releases of contamination into the surface water and sediments entering the Bound Brook. USEPA must hold those responsible parties for their share of the Bound Brook's cleanup and restoration. The cleanup must eliminate those discharges if the USEPA is serious about the clean up of sediments that pose a risk to human health or the environment.

Dismal Swamp Conservation Area

The Bound Brook headwaters are located in the 1,250-acre Dismal Swamp Conservation Area (DSCA), is the home to over 175 birds, 25 mammals, and 25 reptiles and amphibians species including several threatened and endangered. In the last decade, the American Beaver has returned to the DSCA after being trapped to extinction 150 years ago. It traverses Metuchen, Edison and South Plainfield, New Jersey. The DSCA is the largest contiguous wetlands in Northern Middlesex County and a regionally important ecological resource (NJDismalSwamp.org).

The community and thousands of visitors use the DSCA for an ever-increasing amount of eco-tourism and recreational activities. EWA's Triple C Ranch and Nature Center (TripleCRanch.org) alone attracts thousands of visitors a year. Many regional environmental education programs are hosted for schools, scout groups, special needs groups and many other stakeholders. They use the DSCA as an outdoor living educational classroom. EWA's Environmental Education Program, public events and festivals are an ecotourism destination for people of all ages to learn about this unique and diverse habitat, get outdoors and enjoy nature and it's many benefits.

EWA and their project partners have worked for 25 years to help cleanup and preserve the DSCA and the Bound Brook so that it is safe for the community, the biota and the breeding and migratory birds and wildlife. One interesting study showed that the bird populations in the DSCA will dwindle as some lose their chance at finding mates due to the altered mating songs of the male birds because of the effect of high PCB contamination (See Attachment 6 - The Guardian: "PCB's cause birds to sing a different tune," study conducted by a team of researchers from Cornell University.) Some wildlife species will eventually evacuate the DSCA to a better non-polluted habitat.

USEPA must remove the PCBs and other contamination sources before they make the DSCA a lifeless wetlands. USEPA's mission is to protect human health and the environment. Since the USEPA combined the Bound Brook investigation of both the CDE site and the Woodbrook Road Dump Superfund site, the USEPA must address any contamination sources to the surface water and sediment in the Bound Brook that is within the headwaters in the DSCA. This must include the Bound Brook tributaries that bisect the Woodbrook Road Superfund site in South Plainfield, New Jersey.

USEPA must conduct a comprehensive biota study in the DSCA, which should focus on the Bound Brook Corridor, and the species that live, reproduce and migrate in this area. Many people hunt small mammals and deer, turtles and frogs for consumption. These mammals and amphibians drink the water in the Bound Brook especially where PCBs are actively discharging into the surface water at the CDE site. USEPA must test all biota in the Bound Brook and DSCA and assess if a ban on consumption on all biota must be issued.

The DSCA is a unique ecological resource and has undergone a policy change and the public comes to the DSCA on a regular basis to walk on its trails and engage in recreational activity.

With the shortage of open space in Northern Middlesex County and the lack of recreational opportunities, the conservation, cleanup and restoration of the DSCA is critical. USEPA must mitigate all pollution sources into the Bound Brook and cleanup and restore the sediments of the Bound Brook so that the stigma associated with the pollution do not damage the years of hard work to protect and restore this important ecological area. (See Attachment 5).

Dismal Swamp Preservation Commission

In 2009, the State of New Jersey established a Dismal Swamp Preservation Commission (DSPC), which is comprised of members from the Borough of Metuchen, Edison Township, Borough of South Plainfield, Middlesex County and Edison Wetlands Association. The creation of the State of New Jersey's DSPC reflects a dramatic change in public policy regarding the DSCA. The DSPC is tasked with defining the metes and bounds of this regionally important ecological resource, as well as developing a master plan for the future recreational use. The DSPC meets several times a year and has been working diligently on its master plan for the area and other efforts. Since the DSCA the headwaters of the Bound Brook, it is in critical the USEPA to make sure that this state commission is included as a stakeholder, and the proposed cleanup plan is presented to the DSPC. (See Attachment 7 – Cox Book and See Attachment 8 - DSPC)

Woodbrook Road Superfund Site

The Woodbrook Road Superfund Site and the partially buried CDE capacitors and capacitor pieces would have never been found had it not been for EWA discovering them during a site inspection of the DSCA. USEPA first refused to investigate the capacitors and only got involved after the New Jersey Department of Environmental Protection (NJDEP) responded to the EWA call to the NJDEP emergency hotline. (See Attachment 2 - ATSDR Health Consultation Woodbrook Road Superfund Site)

The USEPA's decision to incorporate the Woodbrook Road Superfund Site Bound Brook's Operable Unit with the Cornell-Dubilier Electronics Superfund Site's OU 4 requires the USEPA to fully delineate contamination into the Bound Brook. The PCB contamination at the Cornell-Dubilier Electronics Superfund Site was identified to have Arochlor 1254, while Cornell-Dubilier Electronics stated to have used Arochlor 1242. USEPA must fully remediate all sources of contamination leading into the surface waters and sediments of the Bound Brook, as well as its tributaries that pose any risk to human health and the environment.

USEPA suggestions that the other PCBs are not related to the CDE site may not be accurate due to the disposal of PCB capacitors and capacitor pieces upstream at Woodbrook Superfund site and possibly other up stream locations. EWA's Technical Assistance Grant (TAG) advisors will review the Bound Brook impact at the Woodbrook site, as there are data gaps in the Bound Brook and the site wetlands. They will also disseminate the data to the public and the USEPA Community Advisory Group.

Chevron Ortho Chemical Site

EWA, USEPA and the responsible party have conducted sampling of the surface water and sediments and documented continued off-site migration of contaminants from the Chevron Ortho Chemical Site. Pesticides are flowing from the Chevron Chemical facility, via the Railroad Tributary, to the Main Tributary, to the Bound Brook. EWA raised these concerns several years ago to USEPA and provided USEPA with their independent surface water and sediment sampling data and written reports and showed the USEPA in person the on-going releases documenting the ongoing surface water contamination migrating from the Chevron Site into the Dismal Swamp Conservation Area and Bound Brook.

Additionally, a November 2007 Site Characterization Summary Report (SCSR) for the Woodbrook Road Dump Superfund Site states that one pesticide, 4,4'-DDT was detected above the Residential Direct Contact Soil Cleanup Criteria (RDCSCC) at a concentration of 4.37 mg/kg in a sample taken from a wetland area north of Main Tributary (See Attachment 9 - p. 64). The SCSR report goes on to propose that the source of this 4,4'-DDT is from the nearby Chevron Chemical facility, which is located on the corner of Metuchen and Harmich Roads, near the Railroad Tributary.

4,4'-DDT is an organochlorine pesticide that is known to be persistent and to bioaccumulate, possibly leading to birth or growth defects, cancer, and organ-system toxicity. It is extremely dangerous and was banned in the United States in 1972 because of its impact on human health and the environment. According to the SCSR report, four pesticide components were found in the groundwater samples that the report suggests came from the Chevron Chemical facility (See Attachment 9 - p.129). Finding 4,4'-DDT today in amounts exceeding state standards, both on the Chevron property and draining into the tributaries of the Bound Brook, clearly indicates that human health and environmental exposure is not under control.

Furthermore, polychlorinated biphenyls (PCBs) were also detected in all three of the Railroad Tributary surface water samples, which the report attributes to sources along the Railroad Tributary (See Attachment 9 - p.98). The report also states that the Railroad Tributary emanates from the Chevron Chemical property, which implies that the PCB's they detected are potentially flowing from the Chevron property. In addition, there are semi volatile organic compounds (SVOCs) flowing into the Main Tributary from the Railroad Tributary according to the SCSR report (See Attachment 9 - p.124).

USEPA must stop the discharges of contaminants especially dangerous banned pesticides like the ones that continue from the Ortho/Chevron Site, prior to implementing a remedy to prevent any recontamination of the waterway. If the chemicals from other toxic sites surrounding the Bound Brook are allowed to continue unabated, then all this effort and the US taxpayer's hard earned dollars will be wasted.

Cornell-Dubilier Superfund Site Groundwater Discharge-OU3

Reversal of Groundwater flow: The Middlesex County Water Company's decision to stop pumping the wells from Spring Lake changed the flow of the groundwater when the wells in Spring Lake were shut down due to chemicals in the drinking water wells. USEPA waited 20 years to investigate at the groundwater at the CDE site and then only decided to monitor it. USEPA acknowledged now they must stop the discharge of the contaminated groundwater to prevent sediment re-contamination.

For the short-term solution USEPA must immediately take action to stop the discharge of the high levels of TCE and PCBs into the surface water in the. Pumping of groundwater from the Spring Lake wells to lower the groundwater to below the streambed of the Bound Brook should attempted to minimize the existing active chemical discharges. Especially since the Bound Brook EPA report states, 'that the groundwater can continue for decades possibly century's unless something is done to stop it"

Vapor Intrusion: EWA and all stakeholders need to fully understand the potential impacts to human health and the environment from the contaminated groundwater plume also known as Operable Unit 3. It is critical to address the cleanup of the toxic groundwater plume, potential vapor intrusion in the surrounding community as well as the Bound Brook. The USEPA has not adequately reviewed the potential scope of a vapor intrusion problem based on the handful of samples in a few homes that have been taken in this 825 acre toxic groundwater plume that the USEPA has discovered at the surface of this large geographic region.

USEPA has not done enough vapor testing in the plume areas homes, schools, businesses and day care centers to know if there may be potential problems similar to the magnitude of vapor intrusion in Pompton Lakes, New Jersey. In Pompton Lakes, the DuPont Works RCRA site, a groundwater plume have impacted approximately 450 homes have poisonous TCE and PCE gases entering their homes. The families of Pompton Lakes have documented health problems linked to the breathing of poison gases because the USEPA took decades to disclose the severity of the problem.

Drinking Water Wells: We are extremely concerned that there has not been sufficient investigation of potential drinking water wells that are now at risk due to the change in the aquifer system. The dismissal of contaminants in the one well that was identified is disingenuous to the USEPA's mission of protecting human health and the environment, as drinking water is the most important resource for human life. USEPA and their staff must canvas the entire 825-acre toxic groundwater plume community and survey property and homeowners, tenants and residents as to whether they have groundwater wells or use municipal water. The USEPA has to get serious about surveying and conducting comprehensive testing of all drinking water wells used in this 825-acre plume and test every home for vapor intrusion.

Controlling Active Groundwater Discharge:

The USEPA recently disclosed that the presence of TCE/PCE in the surface water of the Bound Brook has caused the PCB's to become mobile in the water by attaching to the TCE/PCE molecule. This is causing an active discharge and spreading the PCBs downstream causing additional contamination of the 10-miles of the Brook that are under investigation. The groundwater flow into the Brook that is discharging the TCE/PCE contaminated groundwater must be controlled and the flow must be cut off so the Bound Brook is not re-contaminated. USEPA must effectively control the groundwater discharge into the Bound Brook for at least 200 years.

One method to stop this discharge is to install a pump and treat system to treat the groundwater so it can be safely discharged back into the Bound Brook. USEPA mentions using a reactive barrier, however they propose to only construct a trench configuration.

If USEPA has identified, via its modeling, the key transport fractures, and there are in a fractured system, then why isn't the USEPA looking at "targeted reactive barriers," where the zero valent iron is directly injected into those specific key fractures that are most highly contaminated? The remedial options for this site need to have a significant input and 'outside the box' thinking. While it may be true that the 'traditional approaches' may not be effective, that does not mean the contaminated groundwater cannot be managed.
In the review of the options USEPA is considering, the reactive cap on the Bound Brook bottom has the most feasibility, as it would be easiest to operate and maintain for the next 200+ years. However, its construction would need to withstand the erosion forces of a major flood event. Therefore, this project should not leave so many key issues to be determined and addressed in the Remedial Design.

Amendment OU3 ROD:

The USEPA must revisit their decision to leave the groundwater contaminated due to the new information regarding the toxic groundwater plume. Conditions at the site changed and new information from the site was not available when the USEPA decided to leave this huge groundwater plume and issue a determination of impracticability in its cleanup. USEPA and NJDEP did not understand the magnitude and consequences of the discharge of the groundwater. These releases also may be discharging at other areas where the rock conditions permit the release of the site related contaminants of TCE and PCBs. This active discharge of high-level PCBs and TCE from the groundwater and the release of site related contaminants should trigger USEPA's decision makers to reconsider cleaning up OU3 groundwater from the CDE site.

There are several technologies that should be considered to address the CDE Groundwater plume and a treatability study must be conducted to assess these technologies to address the seriously contaminated groundwater plume from the CDE site. Groundwater cleanup is critical now that the USEPA fully understands the extensive threat to human health and the environment.

Below is a technology that shows the field application a passive treatment of chlorinated solvents.

There are other technologies that are available that USEPA has not considered that must be revisited if they are serious about cleaning up the Bound Brook. The CDE OU3 and OU4 are hydraulically interconnected and must be addressed together. *Please consider the following technology for a treatability study in the groundwater at CDE site:*

> ***Field application of passive treatment of chlorinated solvents using novel sustained-release oxidant technologies**:* RemOx® SR ISCO Reagent is a solid potassium permanganate sustained-release (SR) oxidant technology that utilizes paraffin wax as biodegradable matrix material for encapsulating permanganate. Paraffin protects the oxidant from instant dissolution and nonproductive reactions, is nontoxic, and facilitates sustained release of the oxidant over long periods of time through the processes of dissolution and diffusion. The oxidants can be formed as cylinders for direct push applications or inserted into holders for emplacement in wells. The material also can be chipped or cubed for hydrofracturing into low permeability media for treating back-diffusion of organic contaminants. This presentation covers the application, monitoring program, and results of the first Canadian field-scale pilot application of the RemOx® SR barrier technology in December 2012. The treatment was focused on back-diffusion of TCE and PCE from an off-site source following removal of contaminated soil and groundwater along a property boundary at a Southern Ontario site situated in a silty-clay environment. *(Walsom, D.G. and P.J. Dugan Remediation Technologies Symposium 2013, 31 slides, 2013)*
>
> *Longer abstract:*
> http://www.esaa-events.com/remtech2013/2013abstracts/Abstracts%2027.pdf
> *Slides:*
> http://www.esaa-events.com/proceedings/remtech/2013/pdf/13-Walsom.pdf

New Market Pond

Down stream New Market Pond in Piscataway, NJ has also been dredged several times and the dredge spoils contaminated with high levels of PCBs have been disposed of an unknown locations. The dredge could have been used for residential development. The New Market Pond sediments were found to have PCB concentrations that were five times higher in 1956 than are found now (See Attachment 3 - p.11-12). USEPA must research on where this PCB toxic dredge went.

The USEPA must test the entire park and not just the pond to assess if the park soils pose a risk to the families who frequent the park for fishing derby's and other recreational activities. USEPA must thoroughly investigate where this toxic dredge has been relocated.

USEPA section Chief John Prince stated in a recent phone call that the only known use of this highly contaminated PCB dredge was daily landfill cover by Edison Landfill in Edison, New Jersey. The volumes need to be reviewed and assessed and the USEPA must contact the Middlesex County Mosquito Commission who reportedly dredged the pond. USEPA must revisit this issue and investigate where the large volume of high-level PCB dredge was taken and ascertain if it is a current threat to human health or the environment.

PCB Half-life and Natural Attenuation

USEPA states they estimate the half-life of PCB's to be 50 years. The concept of half-life implies that the PCB is degrading, that it is no longer PCB, that it is fundamentally changing (as in the half-life of a compound that will biodegrade, or the half-life of a radio isotope); yet, they explicitly state the PCB is not degrading (See Attachment 3 – p.17).

USEPA must explain this discrepancy, as the use of the term half-life can be misleading. The only reason concentrations of sediment PCBs are decreasing is because they are relocating downstream. Use of half-life should be dropped from the USEPA's vocabulary at this site.

Natural attenuation of a contaminant includes degradation of the contaminant, typically biological degradation, and dispersion of the contaminant, via diluting into a large volume. For sediments, covering over by uncontaminated sediments is also considered, as this blanket can reduce the exposure to a contaminant. In the case of PCBs, there is no degradation, so the 'natural attenuation' that USEPA is considering is simply movement of the PCBs downstream where the concentrations will be lower due to dilution. Those diluted sediments are, hopefully covered by a clean blanket, never to be disturbed. However, with the active discharge of high levels of PCB/TCE from the unremediated contaminated groundwater into the Bound Brook at the Cornell-Dubilier Superfund Site, the PCB will increase not decrease over time.

USEPA uses the term 'monitored natural recovery' to describe the covering of the PCB contaminated sediments; yet acknowledge this hasn't been occurring. USEPA states in the Stakeholder Information Package that, "a comparison of current and historical surface sediment data (1997-2011) revealed little change in Arochlor 1254 concentrations over the past 14 years, suggesting limited natural recovery of PCB contamination in Bound Brook" (See Attachment 3 - p.12). USEPA must explain how something that has not been happening should be considered as a component of a remedial measure.

Stream sediment transport is a dynamic process that changes as the flow of the Bound Brook changes. Therefore, leaving any PCB in-place will only result in the future recontamination of the downstream areas when the flow dynamics change. This downstream movement pushes the PCB into New Market Pond, which is characterized as a 'trap' for those sediments. USEPA should not consider Monitored Natural Attenuation (MNA) as a component of any remedial measure for the stream sediments because it is not valid for a contaminant that doesn't degrade.

Time Frames for Cost Assessments

Overall, the most important factor for a cost assessment is the timeframe. USEPA must present costs for the entire period that these remedies will be implemented and monitored. Otherwise, they are just picking numbers out of the air. The time frames used for the USEPA's cost assessments are not valid and standard protocol says that USEPA should use a 30-year period for evaluating the present worth cost of the various alternatives. For example, any alternative for OU4 related to controlling the groundwater discharge, which prevents the recurrence of PCB's in the sediments, must be maintained for as long as the groundwater contamination could discharge into the stream. This must correspond with the same period that USEPA used to justify its 'technical impracticability.'

If the proper time frames were used, the cost evaluation would **ALWAYS** show it is more cost-effective to take a real protective action **NOW** rather than kick the can down the road for some future generation. It is extremely important to be consistent with remedy selection, especially when selecting remedies that are impacted by other sites Operable Units.

Significant Cultural Resources

Finally, a 1915 map and report show the entire Bound Brook and large areas of the Green Brook and Ambrose Brook are prehistoric Native American Cultural Resource sites (See Figure 4). The entire study area has the potential to have prehistoric campsites, scattered artifacts and burial sites as old as 8000 B.C. Great care must be taken when doing any additional intrusive work in the Bound Brook and Green Brook by the USEPA. We shall provide the report on the finding in the Bound Brook and request that special care be given to minimize disturbance of the Bound Brook and recover any prehistoric artifacts.

We fully support the comprehensive cleanup and restoration of the Bound Brook, CDE OU 3 & 4 and all affiliated sites. Our collective organizations and our many thousands of members support the full remediation and restoration of the Bound Brook, Woodbrook Road Superfund Site, Dismal Swamp Conservation Area and any contamination sources impacting surface water or sediments.

Thank you in advance for carefully reviewing these comments and implementing them in the Cornell-Dubilier Superfund Site OU4 Bound Brook study remedy. If you have any questions, Robert Spiegel will serve as the point of contact and can be reached at 732-321-1300 or rspiegel@edisonwetlands.org.

Respectfully,

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